We Claim:

1. An optical system, comprising

at least a first optical element and second optical element, the first optical element and the second optical element being arranged at a predetermined distance from each other by means of a mounting,

wherein the mounting (15,115) comprises compensation elements (19, 119) for a temperature-dependent change of the predetermined distance (29, 129) between the first optical element (3, 103) and the second optical element (27, 127), the mounting being produced from a material of density of at most 2.5×10^3 kg/m^3.

2. The optical system according to claim 1, wherein the first optical element (3, 103) and the second optical element (27, 127) comprise components of an objective for lithography.

3. The optical system according to claim 1, wherein at least one of the first optical element and the second optical element (3, 27) comprises a mirror.

4. The optical system comprising

a mirror comprising a mirror member carrying a surface, which mirror member is connected to a further optical element by means of a mounting (15, 115) and compensation elements (19, 119),

wherein with a mirror member comprising quartz, the compensation elements comprise at least partially titanium, and with a mirror member comprising SiN the compensation elements comprise at least partially aluminum or titanium, and with a mirror carrier comprising Zerodur the compensation elements comprise at least partially invar.

5. The optical system according to claim 1, wherein at least one of the optical elements

comprises a lens.

6. The optical system according to claim 1, wherein the optical system comprises a telescope, the first optical element comprises a primary mirror (103) of the telescope (101) and the second optical element comprises a secondary mirror (127) of the telescope (101).

7. The optical system according to claim 4, wherein the mounting comprises a material of density of at most 2.5×10^3 kg/m^3.

8. The optical system according to claim 1, wherein the compensation elements (19, 119) are arranged in a region of at least one of the optical elements (3, 27, 103, 127), coaxially of an optical axis (2, 102) defined by the optical elements (3, 27, 103, 127).

9. The optical system according to claim 6, wherein the compensation elements (119) are arranged coaxially of the primary mirror (103).

10. The optical system according to claim 6, wherein the mounting comprises a telescope tube comprising an end facing the primary mirror and an end facing the secondary mirror, wherein the compensation element (119) comprises at least three feet (121) that at one end carry an end of the telescope tube (17) facing the primary mirror (103), and at another end are connected to the primary mirror (103).

11. The optical system according to claim 10, wherein the compensation elements are supported on a mirror carrier (105) carrying the mirror surface (107) of the primary mirror (103).

12. The optical system according to claim 1, wherein the compensation elements (19, 119) have a thermal expansion coefficient deviating from that of the mounting (15, 115).

13. The optical system according to claim 3, wherein the mirror (3, 103) comprises a mirror member (5) comprising SiN carrying a mirror surface (7, 107).

14. The optical system according to claim 1, wherein the mounting (15, 115) comprises C/C SiC material.

15. The optical system according to claim 3, wherein the mirror (3, 103) comprises a mirror produced by replication technique.

16. The optical system according to claim 13, wherein the mirror member (5, 105) is connected directly to a mounting element (9, 109) for isostatic mounting, and the mounting (15, 115) is mounted to the mirror member (5, 105).